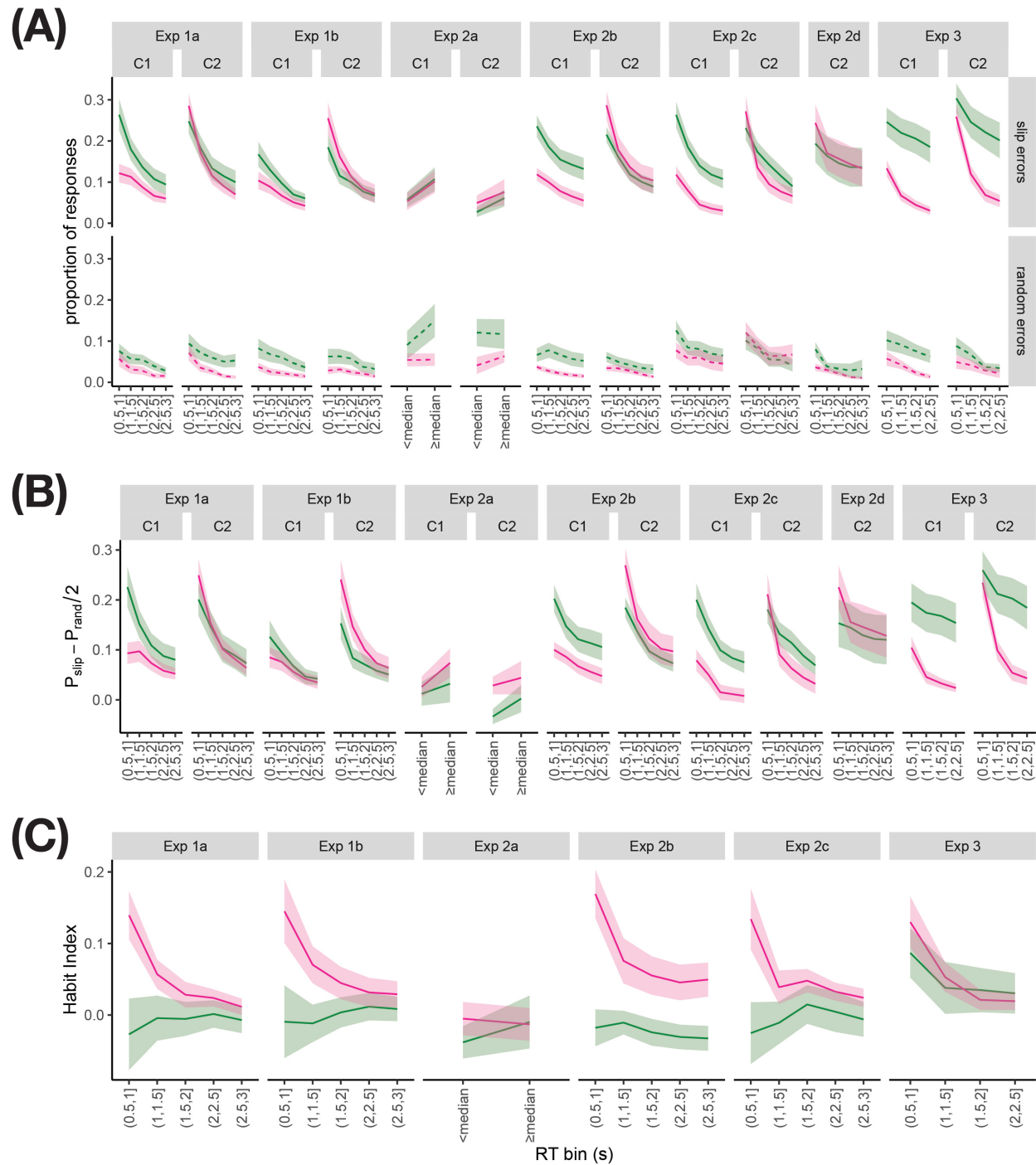
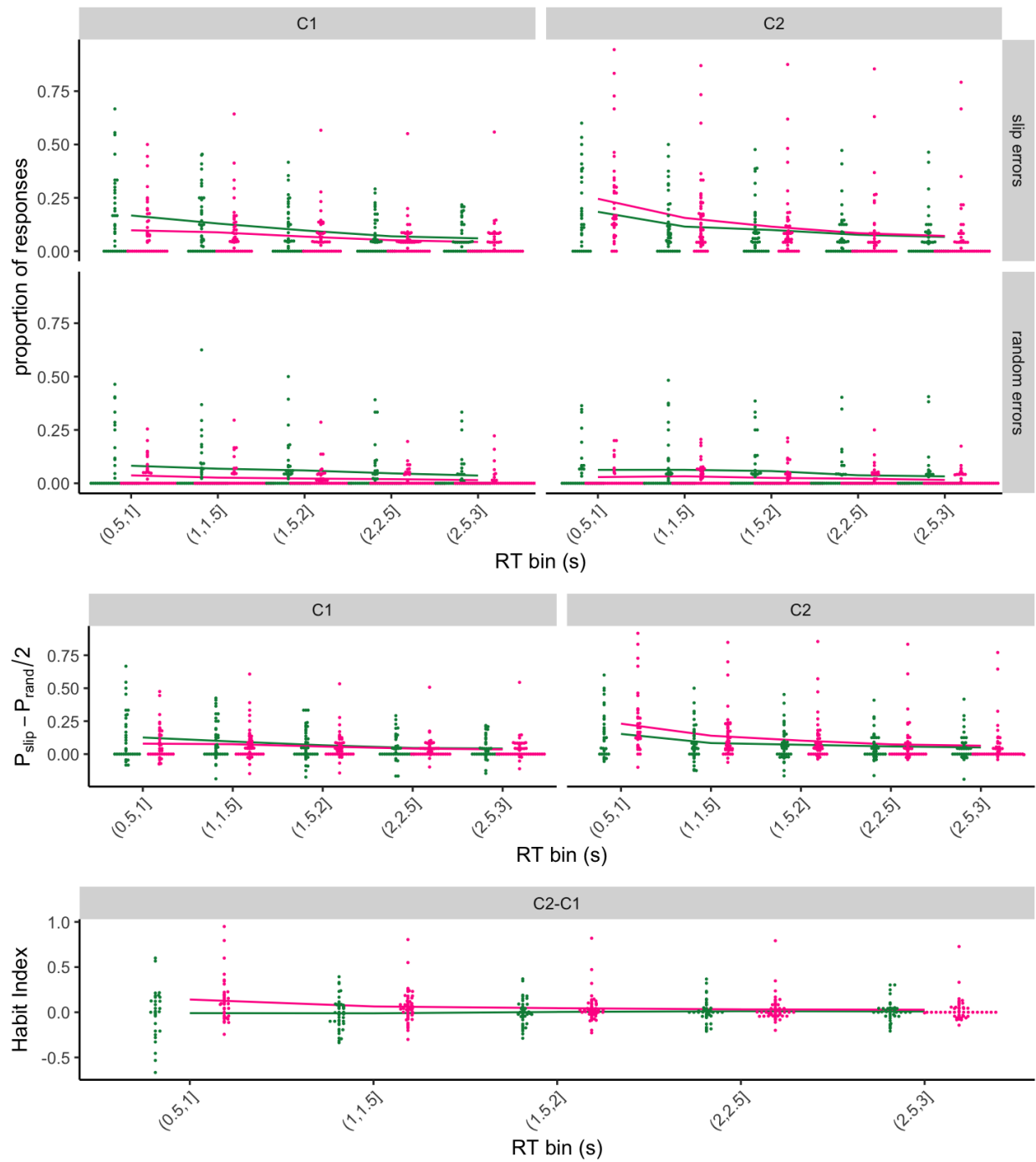


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Supplementary Information

**Figure S1**

Habit Index and quantities used to compute the Habit Index, across task versions (mean \pm s.e.m.). For full legend, see Fig. 3

**Figure S2**

Data for Fig. 3, with individual data points for Exp 1b, showing non-normal variability across participants.

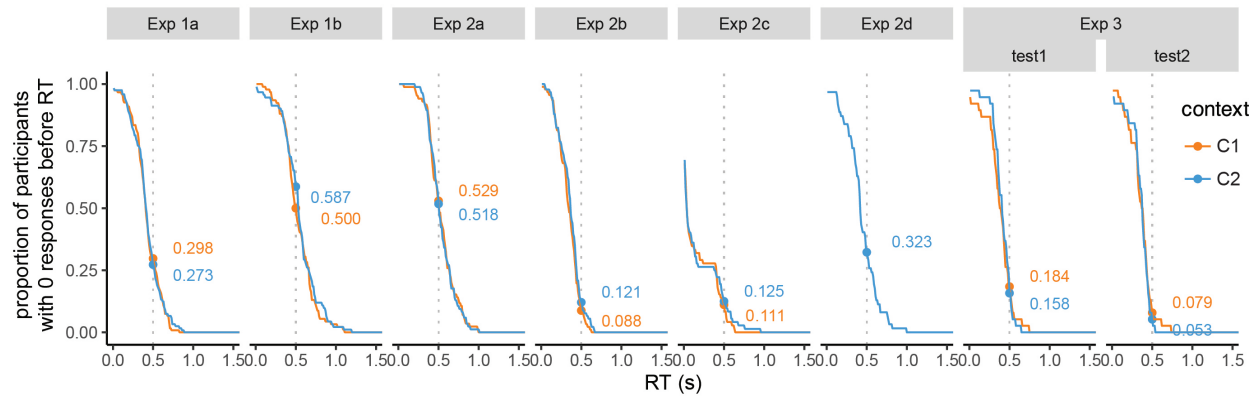
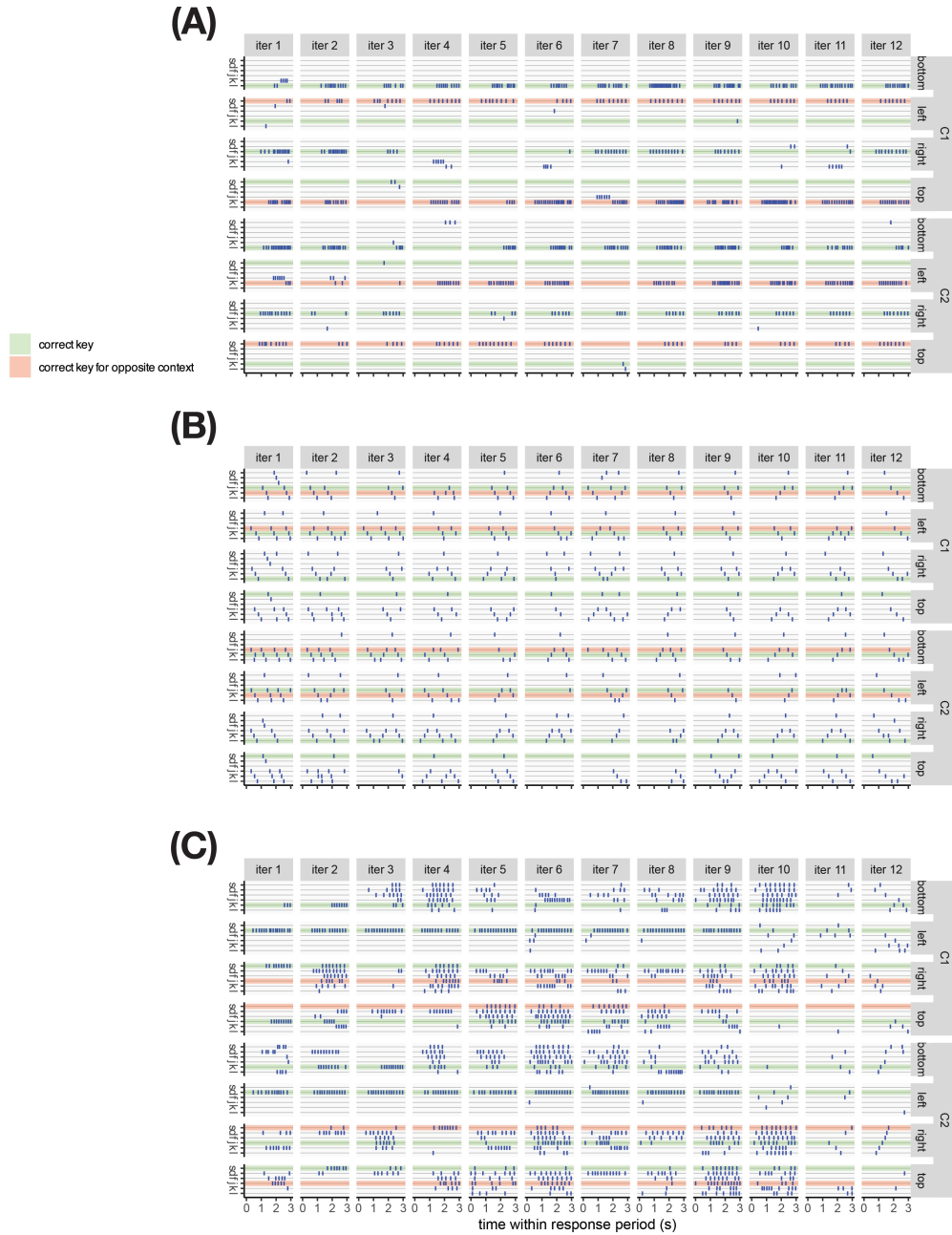
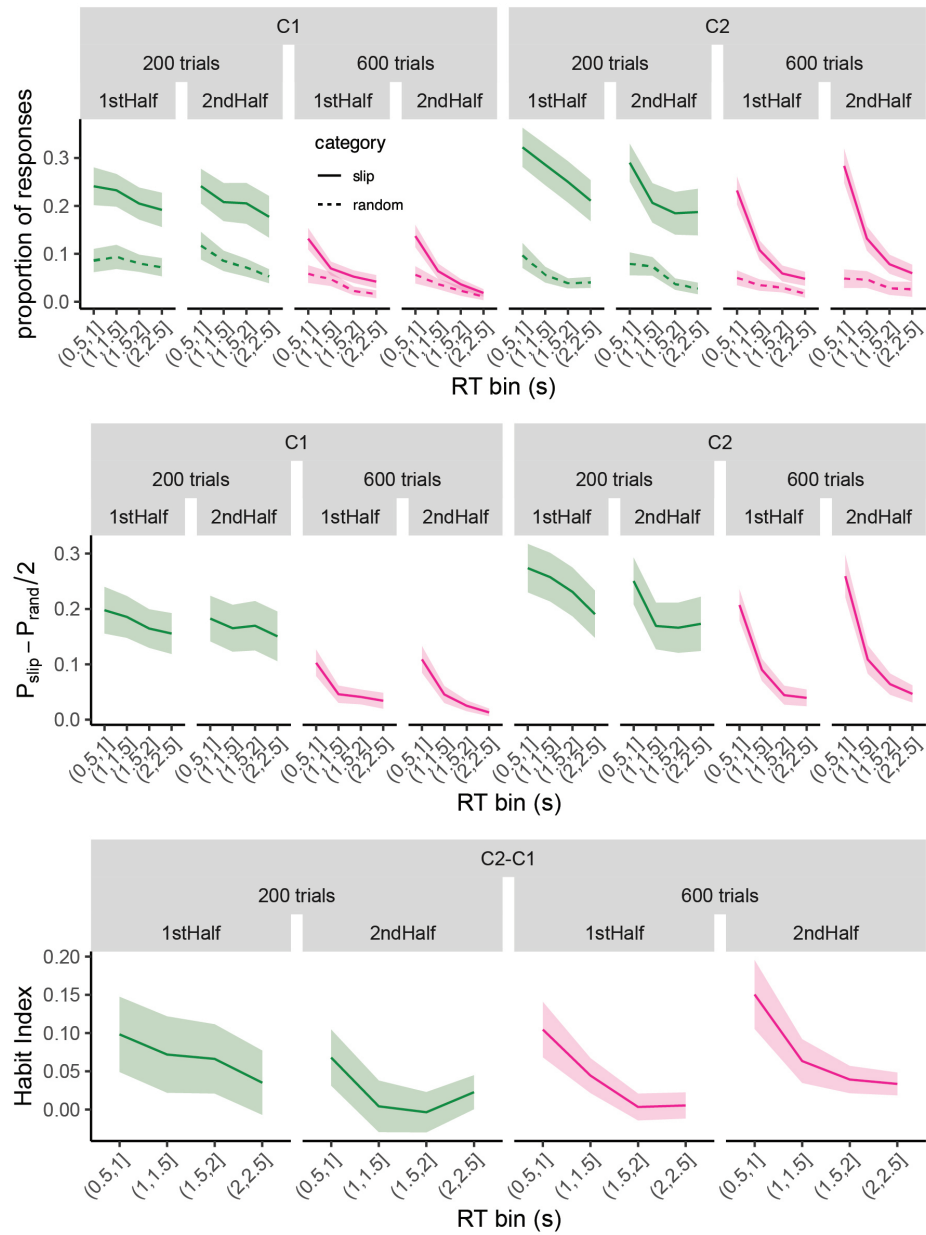


Figure S3

Proportion of participants of participants with 0 responses before RTs spanning the response period, for each Experiment. We used this analysis to select the “early” time bin of $[.5, 1]$, as we found that a large proportion of participants did not have enough data with RTs faster than 0.5s.

**Figure S4**

All test phase stage 3 responses from example participants excluded for satisficing behaviors (see *Exclusion Criteria* in main text for a detailed description of each). Incongruent arms have both a green row (indicating correct response for current context) and a red row (indicating correct response for opposite context); congruent arms have only a green row (the correct response is the same across contexts). **(A)** consistent errors: the participant ended on the incorrect response on all trials for both incongruent arms (left and top) in both contexts. **(B)** random spam: the participant tried pressing multiple keys regardless of congruent/incongruent arm type, allowing them to collect points without making an effort to press the correct key. **(C)** strategic spam: the participant was classified as a strategic spammer because they tried pressing multiple keys more often than not when in incongruent arms, but not in congruent arms.

**Figure S5**

Error rates, baseline-corrected slip rate, and Habit Index in Exp 3, broken down by subblocks each covering half of one of the two test phases.

1191 A short (approximately 5 minutes long) demo of Experiment 1b can be found at
1192 `sarahoh.github.io/habitTask_demo/exp.html`.